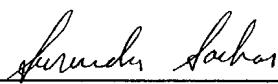


FORM PTO-1390 (Modified) (REV 11-2000)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER 214457US6PCT	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 09/926235	
INTERNATIONAL APPLICATION NO. PCT/FR00/00304	INTERNATIONAL FILING DATE 9 February 2000	PRIORITY DATE CLAIMED 30 March 1999			
TITLE OF INVENTION POUCH AND PACKAGING AND DISTRIBUTION UNIT					
APPLICANT(S) FOR DO/EO/US LEBOUCHER Xavier					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c) (2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)). 11. <input type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IPEA/409). 12. <input checked="" type="checkbox"/> A copy of the International Search Report (PCT/ISA/210). 					
Items 13 to 20 below concern document(s) or information included:					
<ol style="list-style-type: none"> 13. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 14. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 15. <input type="checkbox"/> A FIRST preliminary amendment. 16. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 17. <input type="checkbox"/> A substitute specification. 18. <input type="checkbox"/> A change of power of attorney and/or address letter. 19. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 20. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 21. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 22. <input type="checkbox"/> Certificate of Mailing by Express Mail 23. <input checked="" type="checkbox"/> Other items or information: 					
Request for Consideration of Documents Cited in International Search Report/Notice of Priority PCT/IB/304 PCT/IB/308					

U.S. APPLICATION NO. (IF KNOWN, SEE 37 C.F.R. 1.492(e)) 09/926235	INTERNATIONAL APPLICATION NO. PCT/FR00/00304	ATTORNEY'S DOCKET NUMBER 214457US6PCT										
24. The following fees are submitted:		CALCULATIONS PTO USE ONLY										
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;"><input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO</td> <td style="width: 20%; text-align: right;">\$1000.00</td> </tr> <tr> <td><input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO</td> <td style="text-align: right;">\$860.00</td> </tr> <tr> <td><input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO</td> <td style="text-align: right;">\$710.00</td> </tr> <tr> <td><input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)</td> <td style="text-align: right;">\$690.00</td> </tr> <tr> <td><input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)</td> <td style="text-align: right;">\$100.00</td> </tr> </table>		<input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO	\$1000.00	<input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO	\$860.00	<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO	\$710.00	<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)	\$690.00	<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)	\$100.00	
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<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)	\$690.00											
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)	\$100.00											
ENTER APPROPRIATE BASIC FEE AMOUNT =		\$860.00										
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492 (e)).		<input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30										
		\$130.00										
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE									
Total claims	- 20 =	0	x \$18.00									
Independent claims	- 3 =	0	x \$80.00									
Multiple Dependent Claims (check if applicable).		<input type="checkbox"/>	\$0.00									
TOTAL OF ABOVE CALCULATIONS =		\$990.00										
<input type="checkbox"/> Applicant claims small entity status. (See 37 CFR 1.27). The fees indicated above are reduced by 1/2.		\$0.00										
SUBTOTAL =		\$990.00										
Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)).		<input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30										
		\$130.00										
TOTAL NATIONAL FEE =		\$1,120.00										
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).		<input type="checkbox"/>										
		\$0.00										
TOTAL FEES ENCLOSED =		\$1,120.00										
		Amount to be: refunded \$										
		charged \$										
<p>a. <input checked="" type="checkbox"/> A check in the amount of \$1,120.00 to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 15-0030 A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p>												
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.												
SEND ALL CORRESPONDENCE TO:												
Surinder Sachar Registration No. 34,423												
 22850												
 SIGNATURE												
Gregory J. Maier NAME												
25,599 REGISTRATION NUMBER												
9-28-01 DATE												

Rec'd PCT/PTO 03 JUN 2002

214457US

09/926,235

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF

XAVIER LEBOUCHER : ATTN: APPLICATION DIVISION

SERIAL NO: 09/926,235 :

FILED: 28 September 2001 :

FOR: POUCH AND PACKAGING AND
DISTRIBUTION UNIT

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Prior to a first examination on the merits, please amend the above-identified application as follows:

IN THE CLAIMS

1. (Amended) Bag provided with a deformable flexible wall, designed to contain a product of liquid to pasty consistency, which is intended to be dispensed by a manual jet metering pump of the type without air renewal, to be placed over an area of opening of said bag and to be arranged, in cooperation with the latter, to ensure that the product it contains is kept permanently air-sealed or appreciably air-sealed, said bag equipped with its pump, furthermore to be able to be introduced and protected in an outer casing to form a packaging and dispensing unit for said product, characterized in that said bag presents, in proximity to its opening, at least one area rendered rigid by a thickening of its wall, and containing

additional means of attachment that can be borne by said pump or by an element associated with same in the unit once it is assembled, and/or by the said outer casing when it is present, or by one or more parts of said casing.

3. (Amended) Bag according to Claim 1, characterized in that it contains means of attachment of the pump or of an element associated with same by crimping, ratcheting, screwing, gluing or ultrasonic welding, and means of attachment of the casing or of one or more parts of same by ratcheting, screwing, gluing or ultrasonic welding.

4. (Amended) Bag according to Claim 1, characterized in that it is formed by a body containing a side wall closed at one end by a bottom and connected at its opposite end by means of a shoulder to a neck, the thickness of the wall of said bag being increased in the region of said neck, of said shoulder and of a part of said side wall adjacent to said shoulder.

5. (Amended) Bag according to Claim 4, characterized in that its neck has a continuous outer peripheral flange under which at least one element holding in place the metering pump dispensing the product is intended to be coupled, notably by crimping or by ratcheting.

6. (Amended) Bag according to Claim 4, characterized in that the rigid part of the side wall of the bag contains on the outside at least one ratchet ring designed to cooperate with an inner groove borne by the side wall of a cover in which the bag is intended to be inserted by its bottom or by its top and forming part of the outer protective casing of the bag.

7. (Amended) Bag according to Claim 6, characterized in that it is arranged to form, with the free edge of the cover in mounting position, an annular groove for ratcheting of the lower part of a protective cap forming part of the outer casing.

8. (Amended) Bag according to Claim 4, characterized in that its side wall contains a fold which is placed along a transverse plane of the bag and the profile of which is notably V-

shaped, said fold being arranged so as to separate the rigid part and the flexible part of said bag.

9. (Amended) Bag according to Claim 1, characterized in that it is made of a single-layer or multilayer material.

10. (Amended) Packaging and dispensing unit for a product of liquid to pasty consistency, contained in a bag provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of said bag and being arranged, in cooperation with the latter, to ensure that the product it contains is kept air-sealed or appreciably air-sealed, characterized in that said bag is as defined in Claim 1.

11. (Amended) Packaging and dispensing unit for a product of liquid to pasty consistency, obtained by mixing of at least two components contained in separate bags provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of each of the bags and being arranged, in cooperation with the latter, to ensure that the product they contain is kept air-sealed or appreciably air-sealed, characterized in that each of said bags is as defined in Claim 1.

IN THE ABSTRACT OF THE DISCLOSURE

Please add the following new Abstract on a separate sheet.

ABSTRACT OF THE DISCLOSURE

A pouch provided with a deformable flexible wall and designed to contain a liquid/pasty product that is distributed by a manual recirculating metering jet pump disposed on an opening zone of the pouch and able to be fitted in such a way that the contained product can be permanently stored without contact with the air. The pouch is equipped with a pump and can be introduced into and protected by an outer casing in order to form a packaging and distribution unit for the product. The pouch has at least one rigid area in the vicinity of the opening thereof. The area is created by a thickening of the wall and includes a fixing mechanism in addition to a mechanism that can be borne by the pump or by an element that is associated with the pump in the unit when in a mounted state and/or by the outer casing when it is present or by one of the parts of the casing.

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

The present Preliminary Amendment is submitted to place the above-identified application in more proper format under United States practice.

By the present Preliminary Amendment the Title has been amended to be consistent with that on the PCT priority application and declaration. The claims have been amended by the present response to no longer recite any reference numerals or multiple dependencies. A new Abstract is also submitted herein.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599
Surinder Sachar
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214457US

Marked-Up Copy
Serial No:
Amendment Filed on:
<u>6-3-2002</u>

IN THE CLAIMS

1. (Amended) Bag provided with a deformable flexible wall, designed to contain a product of liquid to pasty consistency, which is intended to be dispensed by a manual jet metering pump of the type without air renewal, to be placed over an area of opening of said bag and to be arranged, in cooperation with the latter, to ensure that the product it contains is kept permanently air-sealed or appreciably air-sealed, said bag equipped with its pump, furthermore to be able to be introduced and protected in an outer casing to form a packaging and dispensing unit for said product, characterized in that said bag [(1)] presents, in proximity to its opening, at least one area rendered rigid by a thickening of its wall, and containing additional means of attachment that can be borne by said pump or by an element associated with same in the unit once it is assembled, and/or by the said outer casing when it is present, or by one or more parts of said casing.
3. (Amended) Bag according to Claim[s] 1 [and 2], characterized in that it contains means of attachment of the pump or of an element associated with same by crimping, ratcheting, screwing, gluing or ultrasonic welding, and means of attachment of the casing or of one or more parts of same by ratcheting, screwing, gluing or ultrasonic welding.
4. (Amended) Bag according to Claim[s] 1 [to 3], characterized in that it is formed by a body [(2)] containing a side wall [(2a)] closed at one end by a bottom [(2b)] and connected at

its opposite end by means of a shoulder [(3)] to a neck [(4)], the thickness of the wall of said bag [(1)] being increased in the region of said neck [(4)], of said shoulder [(3)] and of a part of said side wall [(2a)] adjacent to said shoulder [(3)].

5. (Amended) Bag according to Claim 4, characterized in that its neck [(4)] has a continuous outer peripheral flange [(10)] under which at least one element holding in place the metering pump dispensing the product is intended to be coupled, notably by crimping or by ratcheting.

6. (Amended) Bag according to {one of] Claim[s] 4 [and 5], characterized in that the rigid part of the side wall [(2a)] of the bag [(1)] contains on the outside at least one ratchet ring [(6)] designed to cooperate with an inner groove [(13)] borne by the side wall [(12a)] of a cover [(12)] in which the bag [(1)] is intended to be inserted by its bottom or by its top and forming part of the outer protective casing of the bag.

7. (Amended) Bag according to Claim 6, characterized in that it is arranged to form, with the free edge of the cover [(12)] in mounting position, an annular groove [(9)] for ratcheting of the lower part of a protective cap forming part of the outer casing.

8. (Amended) Bag according to [one of] Claim[s] 4 [to 7], characterized in that its side wall [(2a)] contains a fold [(5)] which is placed along a transverse plane of the bag and the profile of which is notably V-shaped, said fold [(5)] being arranged so as to separate the rigid part and the flexible part of said bag [(1)].

9. (Amended) Bag according to [one of] Claim[s] 1 [to 8], characterized in that it is made of a single-layer or multilayer material.

10. (Amended) Packaging and dispensing unit for a product of liquid to pasty consistency, contained in a bag provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of said bag and being arranged, in cooperation with the latter, to ensure

that the product it contains is kept air-sealed or appreciably air-sealed, characterized in that
said bag [(1)] as is defined in [one of] Claim[s] 1 [to 9].

11. (Amended) Packaging and dispensing unit for a product of liquid to pasty consistency,
obtained by mixing of at least two components contained in separate bags provided with a
deformable flexible wall protected by an outer casing, a manual jet metering pump for said
product, of the type without air renewal, being placed over an area of opening of each of the
bags and being arranged, in cooperation with the latter, to ensure that the product they contain
is kept air-sealed or appreciably air-sealed, characterized in that each of said bags [(1)] is as
defined in Claim 1.

POUCH AND PACKAGING AND DISTRIBUTION UNIT

This invention concerns the packaging and dispensing of products of liquid to pasty consistency, such as cosmetics and dentifrices.

Such products are generally dispensing in dose form by hand pumps placed over the mouth of reservoirs containing those products, these pumps being activated by push buttons worked in alternating translation by the user's finger in order to eject the product dose. These pumps come with axial piston moved by the nozzle and can extract the desired dose of product by means of the partial vacuum that the ascent of the piston creates in its internal chamber before its descent expels the dose.

It is increasingly desired for the products to remain constantly air-sealed in order to avoid their deterioration; the product reservoir then consists of a flexible bag protected inside an outer casing or housing, said housing being tightly connected usually to a centering ring of the pump body, inserted in the opening of the casing.

The corresponding pumps are advantageously pumps without air renewal, so that

the product remains totally air-sealed even during dispensing of the doses. Very numerous pumps of this type and improvements in same have been proposed; in this regard one can mention among others the pumps according to international application WO 95/27569.

The interior bags have to be very resilient in order to ensure a correct dispensing operation. They are therefore made of a thin-walled flexible material. Under those conditions, they are set in place by being inserted at their neck portion on the ring or similar element forming part of the pump system. Once inserted, they are then tightly secured by gluing or by at least one weld line.

Those inserting and gluing or welding operations are very awkward in industrial manufacture. Furthermore, the ring receiving the neck of the deformable bag at its lower part must be long enough for the pump body not to be situated opposite said neck, for, on assembly, the parts of said pump body could be deformed upon those inserting, gluing or welding operations.

The present invention is intended to remedy those problems. For that purpose, it is arranged for the deformable bag to be made with a reinforced top part, which enables the bag to be attached to the device bearing the pump at said rigid part and, therefore, much more easily. The invention further offers the additional advantage that the bag, through its rigid part, can also be easily and directly integrated with the outer casing and, in particular, with a cover protecting the bag, a protective cap that can advantageously cooperate with the rigid part of said bag.

The invention therefore makes it possible to achieve substantial savings in the manufacture of those interior bag dispensers.

This invention therefore concerns, first of all, a bag provided with a deformable flexible wall, designed to contain a product of liquid to pasty consistency, which is

intended to be dispensed by a manual jet metering pump of the type without air renewal, to be placed over an area of opening of said bag and to be arranged, in cooperation with the latter, to ensure

that the product it contains is kept permanently air-sealed or appreciably air-sealed, said bag equipped with its pump furthermore to be able to be introduced and protected in an outer casing to form a packaging and dispensing unit for said product, characterized in that said bag presents, in proximity to its opening, at least one area rendered rigid by a thickening of its wall, and containing additional means of attachment that can be borne by said pump or by an element associated with same in the unit once it is assembled, and/or by the said outer casing when it is present, or by one or more parts of said casing.

The thickness of the bag in the flexible part is such that it can be removed upon use in combination with the pump without air renewal.

As explained above, the air renewal-free pump offers the best guarantee of preservation and conservation of the contents, particularly advantageous when they have to be kept sterile. The invention is thus of interest in the dispensing of sterile soap for hospital use or the like.

An additional advantage offered by the bag of the invention resides in the possibility of obtaining a dispensing of the contents in inverted position of the bag, that is, with the area of opening downward. This feature makes it easier to dispense the contents on a surface with complex relief or directed upward, in that it makes that dispensing possible by bringing the dispensing orifice closer to the surface.

In accordance with the invention, the use of said outer casing is optional. When that outer casing is absent, the outer surface of the bag itself can be decorated.

In particular, said bag is formed by extrusion-blow or injection-blow molding of a

parison having a variable wall thickness depending on the profile sought for said bag. American patents US-A-3,865,528 and US-A-4,217,635 describe equipment which can be used to form those parisons. The latter are then adapted in an appropriate mold into which compressed air can be injected in order to apply the parison, which is expanded against the wall of the mold cavity, and to form the bag desired.

Said bag notably contains means of attachment of the pump or of an element associated with same by crimping, ratcheting, screwing, gluing or ultrasonic welding, and means of attachment of the casing or of one or more parts of same by ratcheting, screwing, gluing or ultrasonic welding.

In the event of presence of an outer casing, some of the methods of attachment of same to the bag, such as ratcheting or screwing, make it possible, after the bag has been emptied of its contents, to separate the bag and the casing. The latter is recoverable, which can give rise to a deposit system, already used in the recovery of some glass bottles, for example. This can result in a saving in overall production cost and in a gain in environmental protection.

In one particular embodiment of the bag according to the invention, this consists of a body containing a side wall closed at one end by a bottom and connected at its opposite end by means of a shoulder to a neck, the thickness of the wall of said bag being increased in the region of said neck, of said shoulder and of a part of said side wall adjacent to said shoulder.

The neck of the bag can have a continuous outer peripheral flange, under which at least one element holding in place the metering pump dispensing the product is intended to be coupled, notably by crimping or by ratcheting. That holding element is, in particular, a metal crimping collar or even a plastic collar connected by ratcheting or screwing.

As for the rigid part of the side wall of the bag, it can contain on the outside at least one ratchet ring designed to cooperate with an inner groove borne by the side wall of a cover in which the bag is intended to be inserted by its bottom or by its top and forming part of the outer protective casing of the bag.

Furthermore, the bag can advantageously be arranged to form, with the free edge of the cover in its assembly position, an annular groove for ratcheting of the lower part of a protective cap forming part of the outer casing.

According to one particular feature of the bag of the invention, the side wall of thereof contains a fold which is placed along a transverse plane of the bag and the profile of which is notably V-shaped, said fold being arranged so as to separate the rigid part and the flexible part of said bag. In this way, the rigid part of the bag is well secured as the flexible part of the bag is withdrawn upon use.

The bag according to the invention can be made of a single-layer material, such as polyethylene or propylene, or also of a multilayer material. As multilayer material, one can mention triple-layer materials containing an anhydrous outer barrier layer, for example of polyamide or ethylene-vinyl alcohol copolymer (EVOH), an intermediate binding layer and an inner layer, for example of polypropylene.

The outer layer can be made in any desired shape, with any desired material, such as glass or plastic or metal such as aluminum or tinplate.

This invention also concerns a packaging and dispensing unit for a product of liquid to pasty consistency, contained in a bag provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of said bag and being arranged, in cooperation with the latter, to ensure that the product it contains is kept air-sealed or appreciably air-sealed, characterized in that said bag is as defined above.

To better illustrate the subject of this invention, several particular embodiments are going to be described below, with reference to the attached drawings.

On those drawings:

- Figure 1 is a view in axial section of a bag according to one embodiment of this invention;

- Figure 2 is a view in axial section of the bag of Figure 1 inserted in and integrated with the cover of an outer casing to form a packaging and dispensing unit according to the invention after a pump without air renewal has been mounted on the outlet of said bag and a protective cap covers the unit; and

- Figure 3 is a partial view in axial section of a bag according to the invention, combined with an outer casing according to a particularly interesting embodiment.

Referring to Figure 1, it can be seen that 1 designates a bag designed to contain a product of liquid to pasty consistency, such as a beauty cream or dentifrice.

That bag 1 is made of polypropylene. It is molded by blow-extrusion of a parison, the thickness of which is varied along its wall in order to obtain, for said bag 1, a top part that is rigid by reason of its greater thickness, the rest of the bag having a flexible wall.

The bag 1 has a cylindrical body 2 containing a side wall 2a closed at one end by a bottom 2b and connected, at its end opposite the bottom 2b, by means of a shoulder 3, to a neck 4.

In proximity to its end opposite the bottom 2b, the side wall 2a of the body 2 presents a fold 5 which is arranged in a radial section and which, in axial longitudinal section as represented on Figure 1, has the shape of a V, the point of which is directed radially inward. That fold 5, which is formed in the thin part of the wall 2a, has the function of keeping the top of the bag 1 rigid when, in the course of use, it is forced to retract more and more as the product it contains is dispensed.

The rigid part of the wall 2a situated between the fold 5 and the shoulder 3 bears on the outside, going from the fold 5 to the shoulder 3, ratchet rings 6, a roughly square-sectioned flange 7 and then an outward separation 8 which creates, with the upper annular face of the flange 7, a groove 9, the function of which is indicated below.

As for the neck 4, it bears on the outside, in proximity to its upper edge, an annular flange 10 and on its upper edge an internal annular boss 11.

In the product packaging and dispensing unit which comprises the bag just described, a sealing washer is applied to the upper edge of the neck 4 cooperating with the annular boss 11. The washer is then held, for example, by a metal crimping collar which has an orifice in its center, permitting passage of the body of a so-called "air renewal-free" pump, which is tightly connected there. The crimping collar cooperates at its lower edge with the flange 10. The axial outlet tube of the pump forming part of the piston of that pump and projecting out of the said collar cooperates with a push button which contains a product dispensing nozzle. Such an assembly is well known, and there are others which are functionally equivalent.

On Figure 2 it can be seen that the bag 1 is represented in place in the cover 12 constituting the body of an outer casing.

The cover 12, made by molding of a rigid plastic, contains a cylindrical side wall 12a connected to a flat bottom 12b. In proximity to its upper free edge, the side wall 12a bears grooves 13 intended to cooperate with the ratchet rings 6 borne by the rigid upper part of the bag 1. Above the grooves 13 the wall 12a presents an internal annular separation 14 intended to be applied, in mounting position, against the annular lower edge of the flange 7 of the bag 1. In that position, the upper free edge of the cover 12 is situated in the same radial plane as the upper edge of the flange 7.

A protective cap on the unit may be engaged in the groove 9, and its outer wall can be situated in the extension of the outer wall of the cover 12.

The bag and outer casing represented on Figure 3 differ from those of Figure 2.

The attachment to the bag 1 of an "air renewal-free" pump, not represented, will be simply obtained by driving in and ratcheting and possibly crimping of the pump on the neck 4, provided for that purpose with a peripheral protuberance 15 with right triangle section.

The body 2 of the bag 1 is not cylindrical here, but roughly ovoidal.

The cover 12 is aluminum here. It is distinguished by the fact that its upper edge presents an extra thickness 16 obtained by folding of the material toward the inside of the cylinder in a well known manner by means of sets of wheels. Prior to that operation, the hollow cylinder is formed, for example, by stamping in an also well known manner.

The bag 1 presents a flange 17 forming a groove 18 with flange 7.

The cover 12 is interlocked with the bag 1 by ratcheting, obtained with positioning of the extra thickness 16 inside the groove 18, the flanges 7 and 17 constituting stops for the extra thickness 16, once that positioning is carried out.

The bottom of the groove 18 presents flanges 19, the small size of which is chosen so that the extra thickness 16 is supported on the flanges 19 with the desired pressure.

This embodiment is particularly simple to use and its industrial application is also of interest from the economic standpoint.

It is well understood that the embodiments of this invention, as described above, have been given by way of nonlimitative example and that modifications can be introduced without departing from the scope of this invention. Thus, notably, the bag 1 and, in particular, its flexible and retractable lower part, could take any desired shape,

not necessarily cylindrical or ovoidal, the system for mounting the pump on the outlet opening of the bag 1 could be a system other than that described above, and the cover 12 could take any desired shape and be made of different materials, such as glass or a metal other than aluminum.

On the other hand, one must also mention, as a particularly advantageous variant of the invention, a packaging and dispensing unit for a product of liquid to pasty consistency, obtained by mixing of at least two components contained in separate bags provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of each of the bags and being arranged, in cooperation with the latter, to ensure that the product they contain is kept air-sealed or appreciably air-sealed, characterized in that each of said bags is as defined above. The feature according to which the manual metering pump is placed over an area of opening of each of the bags relates to the fact that the interior volume of the bags connects with any device capable of pumping the components of the product of liquid to pasty consistency and then of mixing them under pressures and in proportions that are appropriate; in some cases, that device may comprise separate pumping means for the different components.

C L A I M S

1 - Bag provided with a deformable flexible wall, designed to contain a product of liquid to pasty consistency, which is intended to be dispensed by a manual jet metering pump of the type without air renewal, to be placed over an area of opening of said bag and to be arranged, in cooperation with the latter, to ensure that the product it contains is kept permanently air-sealed or appreciably air-sealed, said bag equipped with its pump, furthermore to be able to be introduced and protected in an outer casing to form a packaging and dispensing unit for said product, characterized in that said bag (1) presents, in proximity to its opening, at least one area rendered rigid by a thickening of its wall, and containing additional means of attachment that can be borne by said pump or by an element associated with same in the unit once it is assembled, and/or by the said outer casing when it is present, or by one or more parts of said casing.

2 - Bag according to Claim 1, characterized in that it is formed by extrusion-blow or injection-blow molding of a parison having a variable wall thickness depending on the profile sought for said bag.

3 - Bag according to Claims 1 and 2, characterized in that it contains means of attachment of the pump or of an element associated with same by crimping, ratcheting, screwing, gluing or ultrasonic welding, and means of attachment of the casing or of one or more parts of same by ratcheting, screwing, gluing or ultrasonic welding.

4 - Bag according to one of Claims 1 to 3, characterized in that it is formed by a body (2) containing a side wall (2a) closed at one end by a bottom (2b) and connected at its opposite end by means of a shoulder (3) to a neck (4), the thickness of the wall of said bag (1) being increased in the region of said neck (4), of said shoulder (3) and of a part of said side wall (2a) adjacent to said shoulder (3).

5 – Bag according to Claim 4, characterized in that its neck (4) has a continuous outer peripheral flange (10), under which at least one element holding in place the metering pump dispensing the product is intended to be coupled, notably by crimping or by ratcheting.

6 – Bag according to one of Claims 4 and 5, characterized in that the rigid part of the side wall (2a) of the bag (1) contains on the outside at least one ratchet ring (6) designed to cooperate with an inner groove (13) borne by the side wall (12a) of a cover (12) in which the bag (1) is intended to be inserted by its bottom or by its top and forming part of the outer protective casing of the bag.

7 – Bag according to Claim 6, characterized in that it is arranged to form, with the free edge of the cover (12) in mounting position, an annular groove (9) for ratcheting of the lower part of a protective cap forming part of the outer casing.

8 – Bag according to one of Claims 4 to 7, characterized in that its side wall (2a) contains a fold (5) which is placed along a transverse plane of the bag and the profile of which is notably V-shaped, said fold (5) being arranged so as to separate the rigid part and the flexible part of said bag (1).

9 – Bag according to one of Claims 1 to 8, characterized in that it is made of a single-layer or multilayer material.

10 - Packaging and dispensing unit for a product of liquid to pasty consistency, contained in a bag provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of said bag and being arranged, in cooperation with the latter, to ensure that the product it contains is kept air-sealed or appreciably air-sealed, characterized in that said bag (1) is as defined in one of Claims 1 to 9.

11 - Packaging and dispensing unit for a product of liquid to pasty consistency, obtained by mixing of at least two components contained in separate bags provided with a deformable flexible wall protected by an outer casing, a manual jet metering pump for said product, of the type without air renewal, being placed over an area of opening of each of the bags and being arranged, in cooperation with the latter, to ensure that the product they contain is kept air-sealed or appreciably air-sealed, characterized in that each of said bags (1) is as defined in Claim 1.

Abstract

The invention relates to a pouch that is provided with a deformable flexible wall and designed to contain a liquid/pasty product that is distributed by a manual recirculating metering jet pump disposed on an opening zone of said pouch and able to be fitted in such a way that it cooperates with the latter to ensure that the product thus contained can be permanently stored without contact with the air. The pouch is equipped with a pump and can be introduced into and protected by an outer casing in order to form a packaging and distribution unit for said product. The pouch (1) has at least one rigid area in the vicinity of the opening thereof. Said area is created by a thickening of said wall and comprises fixing means (6, 7, 8; 10) in addition to means (13) that can be borne by the pump or by an element that is associated with the latter in the unit when in a mounted state and/or by said outer casing (12) when it is present or by one of the parts of said casing.

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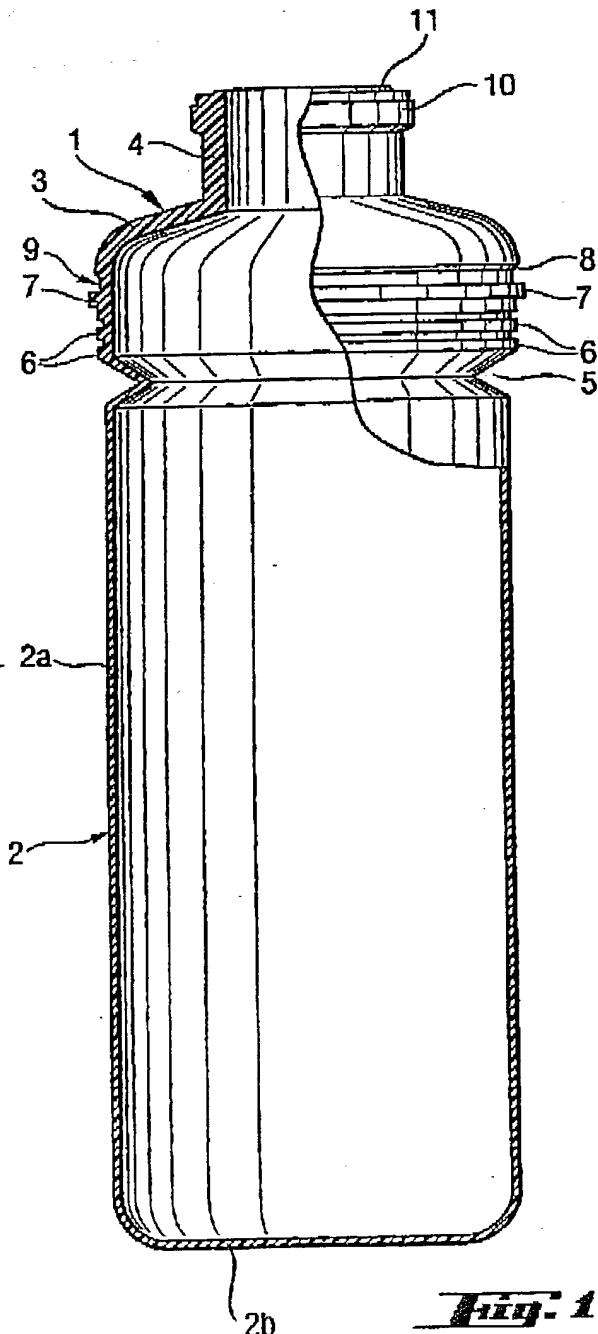
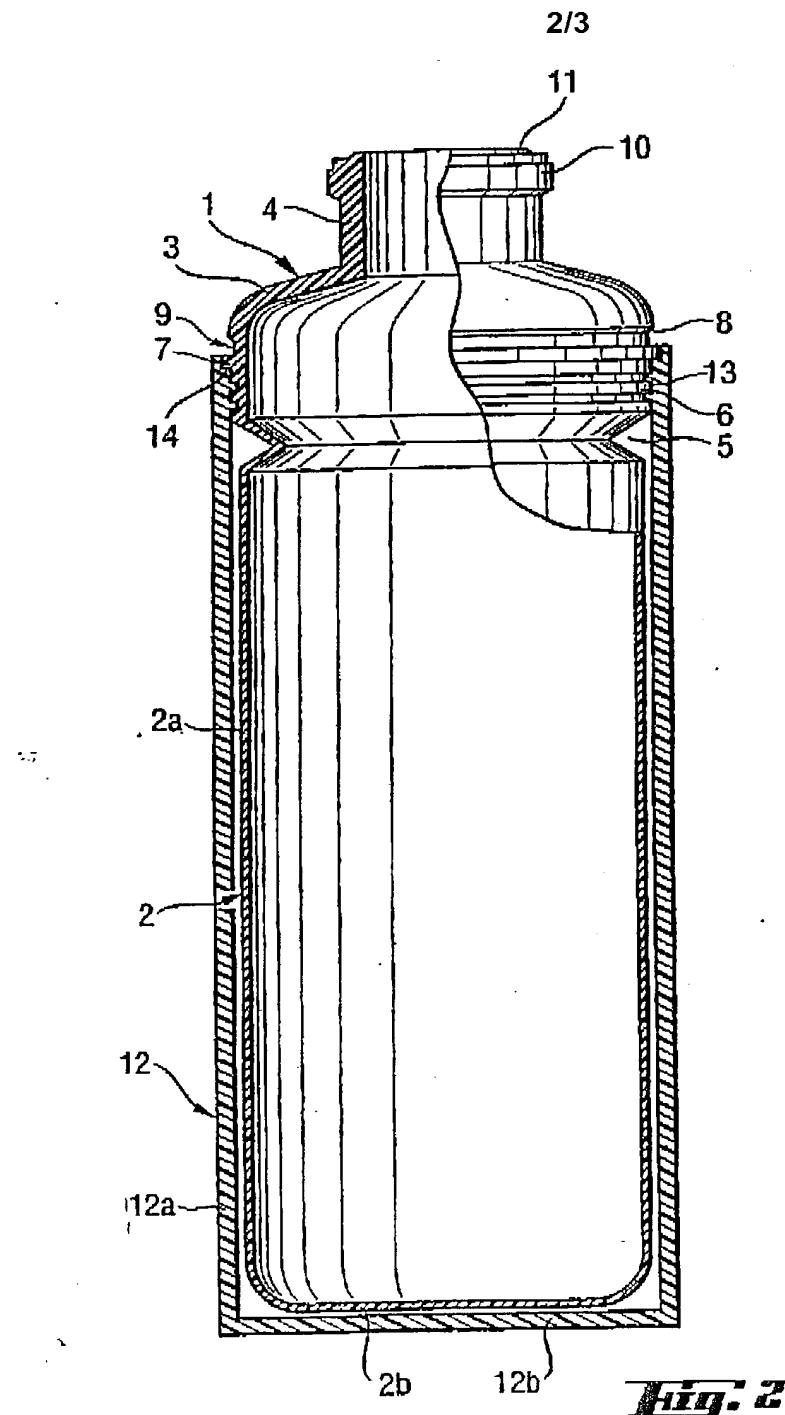


Fig. 1

REPLACEMENT SHEET (RULE 26)



REPLACEMENT SHEET (RULE 26)

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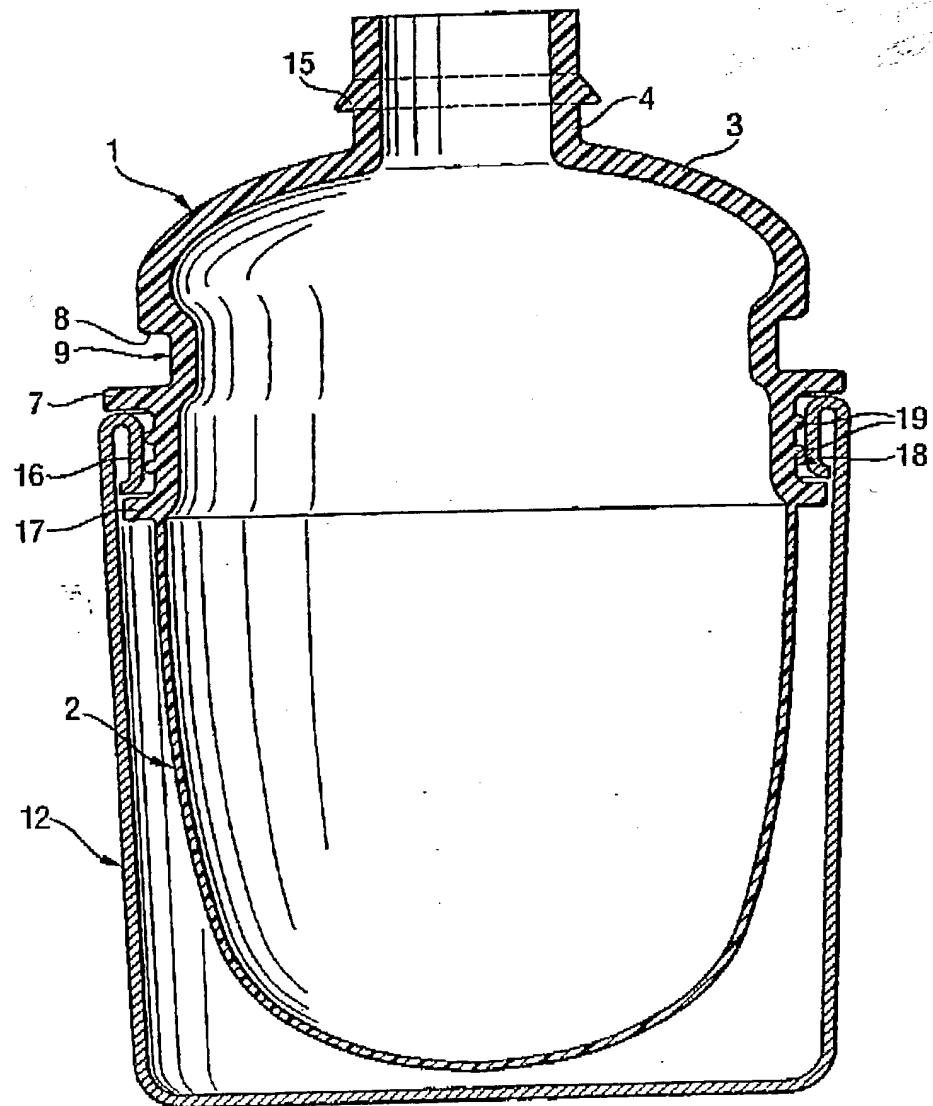


Fig. 3

REPLACEMENT SHEET (RULE 26)

Declaration and Power of Attorney for Patent Application

Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant l'inventeur nommé ci-après, je déclare par le présent acte que:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

et dont la description est fournie ci-joint à moins

ci-joint

a été déposée le _____

sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT

_____ et modifiée le
_____ (le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnaiss devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

POUCH AND PACKAGING AND DISTRIBUTION UNIT

the specification of which

is attached hereto.

was filed on September 28, 2001

as United States Application Number or PCT International Application Number

09/926,235 and was amended on

_____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior Foreign Application(s)

Demande(s) de brevet antérieure(s) dans un autre pays.

99 03966 (Number) (Numéro)	France (Country) (Pays)
_____	_____
(Number) (Numéro)	(Country) (Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)
_____	_____

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

PCT/FR00/00304 (Application No.) (Nº de demande)	9 February 2000 (Filing Date) (Date de dépôt)
_____	_____
(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est possible d'une amende ou d'une incarcération, ou des deux, en vertu de la § 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Claimed Droit de priorité Revendiqué	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30 March 1999 (Day/Month/Year Filed) (Jour/Mois/Anné de dépôt)	Yes Oui	No Non
_____	_____	_____
(Day/Month/Year Filed) (Jour/Mois/Anné de dépôt)	Yes Oui	No Non

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below.

(Application No.) (Nº de demande)	(Filing Date) (Date de dépôt)
_____	_____

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status: Patented, Pending, Abandoned) (Statut : breveté, en cours d'examen, abandonné)	
_____	_____

(Status: Patented, Pending, Abandoned) (Statut : breveté, en cours d'examen, abandonné)	
_____	_____

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)



022850

Addresser toute correspondance à:

Send Correspondence to:



022850

Adresser tout appel téléphonique à:
(nom et numéro de téléphone)

Direct Telephone calls to: (name and telephone number)

(703) 413-3000

Nom complete de l'unique ou premier inventeur <i>1-00</i>	Full name of sole or first inventor <u>Xavier LEBOUCHER</u>
Signature de l'inventeur	Date <i>23/5/02</i>
Signature de l'inventeur	✓Inventor's signature
Domicile <u>122 TER AV DE L'AGENT SARRE 92270 BOIS - COLOMBES FRX</u>	Date Residence <u>42 Rue des Chasses, F-92110 Clichy, FRANCE</u>
Nationalité	Citizenship <u>FRANCE</u>
Adresse Postale	Mailing Address same as above

Nom complete du second co-inventeur, le cas échéant	Full name of second joint inventor, If any
Signature de l'inventeur	Datum
Signature de l'inventeur	Second inventor's signature
Domicile	Date
Nationalité	Residence
Adresse Postale	Citizenship
Adresse Postale	Mailing Address

(Fournir les mêmes renseignements et la signature du troisième co-inventeur et de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)